

REMARKS

INTRODUCTION:

In accordance with the foregoing, the specification has been amended. No claims have been amended. No claims have been cancelled. Claims 16 and 17 have been added. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-17 are pending and under consideration. Reconsideration is respectfully requested.

OBJECTION TO CLAIM 1:

At page 2 of the Office Action, claim 1 was objected to. The Examiner suggested changing the "position detector" as recited in claim 1 to "position detectors" for continuity of the invention. The precise nature of the Examiner's objection is not clear. Accordingly, reconsideration and withdraw of the objection to claim 1 is respectfully requested.

REJECTION UNDER 35 U.S.C. §102:

At page 2 of the Office Action, claims 1, 2, 5, 9, and 12 were rejected "under 35 U.S.C. §102(e) as being anticipated by Sonoda et al (6534944)." This rejection is traversed and reconsideration is requested.

As an initial note, the Applicants respectfully submit that the Examiner has failed to meet his burden under 37 CFR 1.104(d)(1) with respect to this rejection. Domestic patents and patent applications must be cited by number, date and patentee name. 37 CFR 1.104(d)(1). The number cited, U.S. Patent No. 6,534,944, was issued to Toyozawa et al. The name cited, Sonoda, corresponds to U.S. Patent No. 6,046,566. A review of the reference character citations in the rejection suggests that the Examiner intended to reject the claims in question under 35 U.S.C. §102(b) as being anticipated by Sonoda. Although the Applicants have made this assumption for the purpose of this response, the Applicants respectfully request that the next Office Action be made non-final if this particular rejection is repeated.

Regarding claim 1, the Examiner cites Sonoda for teaching means for reducing the force that acts between the two servomotors. The Applicants respectfully disagree. Claim 1 recites:

 said synchronous control device synchronously controls two

servomotors for driving the same control object and further comprises means for reducing the force that acts between the two servomotors on the basis of the force that acts between the two servomotors.

Sonoda does not suggest means for reducing the force that acts between the two servomotors on the basis of the force that acts between the two servomotors. Rather, Sonoda discusses controlling a position of a main servomotor and a sub-servomotor by multiplying a difference between a position feedback value of the main servomotor and a position feedback value of the sub-servomotor by a gain having the same value as that of a position gain used in position control processing for the main motor. *Sonoda, Col. 10, Lines 12-17.*

This distinction is clear from a review of the present application. As noted in the summary section, "the synchronous control device according to the present invention, instead of controlling the position so that the position feedback values from the motors are in agreement with the position commands, computes the force that acts between the motors...." *Pages 2-3, Lines 25-5.* Accordingly, the

synchronization correction processing unit 10 is capable of computing the force between the motors from the difference in torque commands given to the two servomotors, or from the difference in actual electric currents that flow into the two servomotors.... *Page 16, Lines 16-20 (Emphasis Added).*

In contrast, the position adjusting gain 41 of Sonoda receives signals which include a position feedback value from the encoder 26 of the motor 25, and a position feedback value from the encoder 36 of the motor 35, not "forces."

The Applicants respectfully submit that since Sonoda fails to teach or suggest all of the features of claim 1, claim 1 is allowable over Sonoda. Thus, withdrawal of the 102 rejection is respectfully requested.

Regarding the rejection of claims 2, 5, 9, and 12, these claims depend directly on independent claim 1 and are therefore believed to be allowable for at least the reasons noted above.

At page 3 of the Office Action, claims 1, 2, 5, 9, and 12 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,534,944 issued to Toyozawa et al. This rejection is traversed and reconsideration is requested.

Regarding claim 1, the Examiner cites Toyozawa for teaching means for reducing the force that acts between the two servomotors as recited above. The Applicants respectfully disagree. Toyozawa does not mention reducing a force that acts between two servomotors

based on the force that acts between the two servomotors. Instead, Toyozawa discusses a damping controller that generates a current command correction value based on velocity feedback amounts from two servomotors. *Toyozawa, Col. 5, Lines 22-64.* The signals that the damping controller 2 receives are velocity feedback values from the motors 15 and 25, not "forces." In contrast, the present invention computes the force between two servomotors and reduces that force.

The Applicants respectfully submit that since Toyozawa fails to teach or suggest all of the features of claim 1, claim 1 is allowable over Toyozawa. Thus, withdrawal of the 102(e) rejection is respectfully requested.

Regarding the rejection of claims 2, 5, 9, and 12, these claims depend directly on independent claim 1 and are therefore believed to be allowable for at least the reasons noted above.

REJECTION UNDER 35 U.S.C. §103:

At page 5 of the Office Action, claims 1, 2, 5, 9, and 12 were rejected under 35 U.S.C. §103(a) as being obvious over U.S. patent No. 5,134,354 issued to Yamamoto et al. in view of U.S. Patent 5,086,263 issued to Kubota. The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is respectfully requested.

The Applicants respectfully submit that the rejection fails to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. MPEP 2142. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *Id.* Second, there must be a reasonable expectation of success. *Id.* Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *Id.* The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *Id.*

Regarding claim 1, the Examiner admits that Yamamoto does not teach means for reducing a force that acts between two servomotors as recited above. The Examiner instead cites Kubota. The Applicants respectfully disagree. Kubota is directed to a bi-axial synchronous driving apparatus. Kubota mentions driving a set of motors based upon deviation signals

received from deviation counters and correction signals. *Kubota, Col. 4, Line 16 – Col. 5, Line 4.* A correction circuit 31 receives position deviation signals A from the deviation counter 23 on the side of the motor 3, and position deviation signals B from the deviation counter 24 on the side of the motor 4. The correction circuit 31 does not receive a signal of "force." As noted above, the present invention calculates a force between two servomotors and reduces that force. Kubota does not teach computing the force between the two servomotors to reduce that force.

The Applicants respectfully submit that at least because neither the Yamamoto nor Kubota, individually or combined, teach or suggest all of the features of claim 1, the combination of Yamamoto and Kubota fails to establish a *prima facie* case of obviousness. Accordingly, claim 1 is deemed to be allowable over the art of record. Therefore, withdrawal of the §103(a) rejection is respectfully requested.

Regarding the rejections of claims 2, 5, 9, and 12, these claims are dependent on independent claim 1, and are therefore believed to be allowable for at least the reasons noted above.

It is also submitted that the Examiner's proposed combination of teachings is based on improper hindsight. In the Office Action, the Examiner states without support that it would have been obvious to one of ordinary skill in the art at the time of invention to combine the references to achieve the advantages of a system capable of driving two axes in synchronization with accuracy and with substantial elimination of slippage or other mechanical problems. *Office Action, Pages 5 and 6.* The Applicants respectfully submit that the Examiner has not shown, in the prior art, a teaching or suggestion to make the claimed combination.

ALLOWABLE SUBJECT MATTER:

The Applicants acknowledge with appreciation that claims 3, 4, 6, 7, 8, 10, 11, 13, 14 and 15 have been found to contain allowable subject matter. However, because independent claim 1 is believed to be allowable, it is requested that claims 3, 4, 6, 7, 8, 10, 11, 13, 14 and 15 be found allowable as is.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further

outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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